

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

Approved for use through xx/xx/200x. OMB 0661-00xx  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional):

4094-009

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

Date: December 16, 2005

Signature: *Kathy L. Stehle*

Typed or printed name: KATHY STEHLE

Application Number:

10/643,062

Filed:

August 18, 2003

First Named Inventor:

Mr. John R. Richards

Art Unit:

1753

Examiner:

MS. EDNA WONG

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.

(Form PTO/SB/96)

☒ attorney or agent of record

Registration Number: 25,620

☐ attorney or agent acting under 37 CFR 1.34.

Registration Number if acting under 37 CFR 1.34 \_\_\_\_\_

*Larry L. Coats*

Signature

Larry L. Coats

Typed or Printed Name

(919) 854-1844

Telephone Number

December 16, 2005

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ form(s) is/are submitted.

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



)
)
)
)
)
)
)
)
)
)
)

Confirmation No.: 4152

Kathy L. Stehle

A method of removing ammonia from a gas stream comprising: irradiating the gas stream with UV light; maintaining a  $\text{NO}_x$  concentration in the gas stream at a concentration level sufficient to maintain in the gas stream an active set of free radical chain reactions; forming free radicals that remove a hydrogen atom from the ammonia to form  $\text{NH}_2$ , and reacting  $\text{NH}_2$  with  $\text{NO}_x$  to form  $\text{N}_2$  and  $\text{H}_2\text{O}$ .

In the final rejection of June 16, 2005, the Examiner has incorporated the rejection applied in the office action dated January 26, 2005. In that office action the Examiner acknowledged that Stevens does not teach certain limitations found in claim 1 and the claims depending therefrom. Indeed the Examiner acknowledged that:

Stevens does not teach maintaining a NO<sub>x</sub> concentration in the gas stream at a concentration level sufficient to maintain in the gas stream an active set of free radical chain reactions.

But then the Patent Office maintains as follows:

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Stevens by maintaining a NO<sub>x</sub> concentration in the gas stream at a concentration level sufficient to maintain in the gas stream an active set of free radical chain reactions because Stevens teaches that sensors are located in the duct and in the stack, the former sensors being responsive to the concentrations of SO<sub>2</sub> and/or NO<sub>x</sub> and serving to increase the rate of addition of NH<sub>3</sub> as the concentrations of SO<sub>2</sub> and/or NO<sub>x</sub> increase (col. 5, line 60 to col. 6, line 2). Thus, this teaching would have suggested to one having ordinary skill in the art that the NO<sub>x</sub> concentration in the gas stream was maintained at a concentration level. This concentration level would have been sufficient to maintain in the gas stream an active set of free radical chain reactions because the process is continuous (= the process is applied to a flowing stream of the gas) [col. 1, lines 39-40].

This is an obviousness rejection - not an anticipation rejection. The rejection is based on Section 103 and the Examiner acknowledges that Stevens does not teach maintaining a NO<sub>x</sub> concentration in the gas stream at a concentration level sufficient to maintain in the gas stream an active set of free radical chain reactions. If Stevens does not teach this then it follows that since the Section 103 rejection is based solely on Stevens, that the Examiner is maintaining that it would be obvious to modify Stevens

such that Stevens maintains the NO<sub>x</sub> concentration at a level sufficient to maintain an active set of free radical chain reactions.

It is well settled that a prima facie case of obviousness cannot be made if the reference or references being utilized teach away from the claimed invention. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). This case presents a classical teaching away from the claimed invention. Throughout Stevens the emphasis is on removing the NO<sub>x</sub> from the gas stream, rather than maintaining NO<sub>x</sub> within the gas stream. Further, Applicants' claimed invention is directed at removing ammonia from the gas stream by maintaining NO<sub>x</sub> in the gas stream. Stevens focuses on removing NO<sub>x</sub> from the gas stream and, ironically, actually injects ammonia into the gas stream in order to remove the NO<sub>x</sub>. Hence, on the one hand Applicants' invention is directed at removing ammonia while Stevens teaches injecting ammonia, and furthermore, in order to remove ammonia from the gas stream Applicants' invention focuses on maintaining NO<sub>x</sub> in the gas stream to assist in the removal of ammonia while Stevens teaches injecting ammonia into the gas stream in order to remove the NO<sub>x</sub>. The Examiner does not dispute this factual analysis of Stevens.

The title of the Stevens inventions states a "Process for Reduction of the Content of SO<sub>2</sub> and/or NO<sub>x</sub> in Flue Gas." The opening paragraph of the specification states:

The present invention relates to a process for the reduction of the content of SO<sub>2</sub> and/or nitrogen oxides NO and NO<sub>2</sub> (sometimes referred to by the general term "NO<sub>x</sub>") in flue gases.

(Stevens, col. 1, ll. 5-9)

Thereafter Stevens discloses three reactions, numbered 1-3, that explains how his process removes the NO<sub>x</sub> from the flue gases. In particular, Stevens teaches

removing NO<sub>x</sub> from the flue gases by mixing the gas with NH<sub>3</sub> and irradiating the mixture with ultraviolet light. By this process the NH<sub>3</sub> is photolyzed in the spectral range of 190 to 220 nanometers to yield amino radical, NH<sub>2</sub>, in accordance with the reaction:



As taught by Stevens, the amino radical reacts with NO<sub>x</sub> to yield nitrogen and N<sub>2</sub>O according to the following reactions:



(Stevens, col. 1, ll. 13-24)

In the face of this the Examiner finds that it “would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Stevens by maintaining a NO<sub>x</sub> concentration in the gas stream at a concentration level to maintain in the gas stream an active set of free radical chain reactions...”

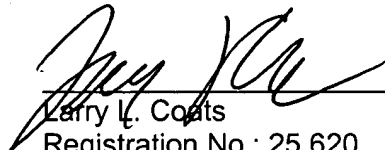
A person of ordinary skill in the art upon reviewing Stevens would come away with the indelible impression that Stevens’ goal was to remove as much NO<sub>x</sub> as practically possible. The idea of modifying Stevens to maintain a certain concentration of NO<sub>x</sub> is fundamentally contrary to the most basic teachings of Stevens. Indeed, as already discussed, Stevens in the most direct way teaches away from Applicants’ claimed invention.

Check number 16724 in the amount of \$510.00 is enclosed to cover the fees associated with a three-month extension of time request, and check number 16725 in the amount of \$250.00 is enclosed to cover the fees associated with the Notice of

Appeal. If any further fees or charges are required, the Commissioner is hereby  
authorized to charge them to Deposit Account 18-1167.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

  
\_\_\_\_\_  
Larry L. Coats  
Registration No.: 25,620

Dated: December 16, 2005

P.O. Box 5  
Raleigh, NC 27602  
Telephone: (919) 854-1844  
Facsimile: (919) 854-2084